

certain representatives of Ranales, and shows how the scattered bundles of a petiole may be converted into a ring, and the bundles of one side of the ring approximate the opposite side so as to produce a single arc.—M. A. CHRYSLER.

Solution of mitoses.—Experiments of OES²⁹ with various root tips, embryo sacs, and pollen mother cells show that cells capable of growth and division contain a chromatin-dissolving enzyme (*nuclease*), which dissolves chromatin when toluol, chloroform, carbolic acid, etc., are added. Metaphases, anaphases, and telophase are most quickly attacked, the prophases being less susceptible, and the resting nucleus still more resistant. In autolyzed objects the spindle is dissolved, but the nucleolus and nuclear membrane of resting nuclei remain unaffected. The effect of temperature, neutral salts, free acids, and alkalies was observed in various objects. The writer believes that the diminution of chromatin in the telophase, observed by STRASBURGER and others, may be due to nuclease. If nuclease functions in the normal, living plant, thus causing irregular fluctuations in the chromatin, the question arises whether chromatin is the exclusive bearer of hereditary qualities.—CHARLES J. CHAMBERLAIN.

Tyloses in tracheids of Conifers.—CHRYSLER³⁰ has reinvestigated this subject, and finds tyloses in the heart wood of the root, and in the first year's growth of the axis of the strobilus. So far as his work goes, they are confined to *Pinus*, the examination of the root wood of 12 other genera and of the cone axes of 7 other genera failing to reveal them. The effect of wounding was also studied, but it did not result in extending the range of tyloses, either to other genera or to other regions of *Pinus*; but wounding did result in inducing the occurrence of tyloses in the normal regions of *Pinus*. It is suggested that these facts may provide an additional reason for considering *Pinus* to be an ancient genus.—J. M. C.

Plant diseases.—STEWART and HODGKISS in a recent bulletin³¹ discuss the carnation bud rot previously described by HEALD and WOLCOTT of the Nebraska Experiment Station. It is a disease which is known to occur in New York, Illinois, and Nebraska, and which is attributed to a species *Sporotrichum* with the association of a species of mite.

The disease of grass known as silver top is also discussed in this same bulletin and attributed to the same fungus in association with the same mite, though the relation of the mite to infection has not been completely worked out in either case.—F. L. STEVENS.

²⁹ OES, ADOLF, Ueber die Autolysis der Mitosen. Bot. Zeit. 66:89-120. pl. 5. 1908.

³⁰ CHRYSLER, M. A., Tyloses in tracheids of Conifers. New Phytol. 7:198-204. pl. 5. 1908.

³¹ STEWART, F. C., AND HODGKISS, H. E., Tech. Bull. 7, N. Y. Agric. Exper. Sta. Oct. 19, 1908.